

### **REMARKS**

#### **A. Status of the Claims / Amendments to the Specification, Claims and Drawings**

In the Office Action/Final Rejection of February 18, 2009, the status of the claims was as follows:

Claims 1-63 were previously canceled.

Claim 68 was objected to as being in improper form.

Claims 64, 66-69, 71, 73 and 74 were rejected under 35 U.S.C. §102(b) based on Thompson '814.

Claim 65 was rejected under 35 U.S.C. §103(a) based on Thompson '814 and Hirai '962.

Claim 70 was rejected under 35 U.S.C. §103(a) based on Thompson '814 and Kido '209.

Claim 72 was rejected under 35 U.S.C. §103(a) based on Thompson '814.

The previous objections to the Drawings and the Specification have been withdrawn by the Examiner based on the last Amendment and Response.

In this Amendment and Response/RCE, Claim 64 has been canceled and new independent method Claims 75 and 76 have been added. Dependent Claims 65-74 have been made directly or indirectly dependent on new Claim 75, and the preambles of these claims have been accordingly amended to recite "The method...." Instead of "The device...."

No new matter has been added. Support for new Claims 75 and 76 is found in Example 10 and Table 1 of the original disclosure at page 26, line 27 to page 27, line 24. Example 10 discusses the several ways in which an electroluminescent device having an electroluminescent layer prepared in accordance with the claimed method (i.e., fabricated

with zirconium quinolate) demonstrates surprisingly substantially improved performance characteristics relative to an otherwise comparable device prepared in accordance with prior art techniques (i.e., fabricated with aluminum quinolate). As clearly shown in Table 1 (at page 27, lines 10-15), an electroluminescent device fabricated with a zirconium quinolate electroluminescent layer according to this invention demonstrates increased luminescence efficiency measurable as  $\text{cd A}^{-1}$ , increased luminescence measurable as  $\text{cd m}^{-2}$  at  $20 \text{ mA cm}^{-2}$ , and decreased turn-on voltage in comparison with a comparable aluminum quinolate-based device.

New Claims 77-86 are dependent claims dependent on new Claim 76. These new claims correspond respectively to Claims 65-74 except for the claim dependency.

**B. Objection to Claim 68**

As should be clear to the Examiner, the claim dependency objection to Claim 68 (para. 5 of the Office Action) was the result of an obvious typographical error. It was originally intended that Claim 68 be dependent on Claim 67, not Claim 47, and that correction has now been made.

**C. Sec. 102(b) Rejection – Thompson ‘814**

Claims 64, 66-69, 71, 73 and 74 were rejected under 35 U.S.C. §102(b) as being anticipated by the Thompson ‘814 patent (para. 7 of the Office Action). Apparatus Claim 64 has now been canceled and replaced by new method Claim 75. The several dependent claims now depend from method Claim 75. Applicants respectfully submit that this ground of rejection is not applicable to new method Claim 75 or the claims dependent on Claim 75.

As the Examiner correctly observed in para. 7 of the Office Action, “the reference [Thompson ‘814] is silent regarding ‘wherein said device has the characteristics of a higher luminance efficiency measureable as  $\text{cd A}^{-1}$ , a greater luminance measurable as  $\text{cd m}^{-2}$  at 20  $\text{mA cm}^{-2}$ , and a reduced turn-on voltage compared with a similar device in which said metal quinolate is aluminum quinolate’...” (emphasis added). Because Thompson ‘814 is “silent” concerning any of these quinolate-related performance characteristics, based on the teachings of Thompson ‘814 alone no one of ordinary skill in this art would have any basis for practicing the claimed method.

For these reasons, new method Claim 75 and the claims dependent on Claim 75 are clearly not anticipated by Thompson ‘814.

**D. Sec. 103(a) Rejection – Thompson ‘814 / Hirai ‘962**

Claim 65 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Thompson ‘814 patent in view of the Hirai ‘962 patent publication (para. 10 of the Office Action). Applicants respectfully request that this ground of rejection be reconsidered and withdrawn in view of the current dependency of Claim 65 on new Claim 75.

The Hirai ‘962 publication was cited solely to show that “perylene and acridine compounds [are] suitable light emitting compounds for an electroluminescent device.” Nothing in Hirai ‘962, however, teaches or suggests the surprising quinolate-specific performance characteristics that are the basis for the present method claims. Accordingly, the citation of Hirai ‘962 in combination with Thompson ‘814 still does not teach or suggest the claimed method, and the present claims should be deemed patentable over this reference combination.

**E. Sec. 103(a) Rejection – Thompson ‘814 / Kido ‘209**

Claim 70 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Thompson ‘814 patent in view of the Kido ‘209 patent (para. 11 of the Office Action). Applicants respectfully request that this ground of rejection be reconsidered and withdrawn in view of the current dependency of Claim 70 on new Claim 75 (via Claim 66).

The Kido ‘209 patent was cited solely to remedy the fact that Thompson ‘814 “does not explicitly disclose wherein the electron transport layer comprises lithium quinolate....” Nothing in Kido ‘209, however, teaches or suggests the surprising quinolate-specific performance characteristics that are the basis for the present method claims. Accordingly, the citation of Kido ‘209 in combination with Thompson ‘814 still does not teach or suggest the claimed method, and the present claims should be deemed patentable over this reference combination.

**F. Sec. 103(a) Rejection – Thompson ‘814**

Claim 72 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Thompson ‘814 patent (para. 12 of the Office Action). Applicants respectfully request that this ground of rejection be reconsidered and withdrawn in view of the current dependency of Claim 72 on new Claim 75 (via Claim 66).

As discussed in part C above, Thompson ‘814 is “silent” concerning the surprising quinolate-specific performance characteristics that are the basis for the present method claims. Accordingly, the present claims should be deemed patentable over Thompson ‘814 alone.

Application Serial No. 10/540,809  
Amendment and Response/RCE

PATENT  
Attorney Docket No.: LUC-013

**SUMMARY AND CONCLUSIONS**

For all of the foregoing reasons, Claims 65-86 are in condition for allowance and an early notice thereof is earnestly requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "David Silverstein", is written over a horizontal line.

David Silverstein  
Registration Number 26,336  
Attorney for Applicants

Date: May 18, 2009  
Andover-IP-Law  
44 Park Street, Suite 300  
Andover, MA 01810  
Telephone: (978) 470-0990  
Facsimile: (978) 470-0993